| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/315,102 | 05/20/1999 | DAVID W. STEBBINGS | 104706.111 | 6029 |

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| EXAMINER |
|---|
| MOORTHY, ARAVIND K |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2131 | |

DATE MAILED: 04/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

| | Application No. | | Applicant(s) | |
|---|---|---|---|---|
| **Office Action Summary** | 09/315,102 | | STEBBINGS, DAVID W. | |
| | **Examiner** | | **Art Unit** | |
| | Aravind K Moorthy | | 2131 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) ☒ Responsive to communication(s) filed on <u>29 January 2002</u> .

2a) ☐ This action is **FINAL.**      2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) ☒ Claim(s) <u>1-15</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-15</u> is/are rejected.

7) ☒ Claim(s) <u>14</u> is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9) ☒ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on <u>20 May 1999</u> is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All b) ☐ Some * c) ☐ None of:

        1. ☐ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

        3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

| | | |
|---|---|---|
| 1) ☒ Notice of References Cited (PTO-892) | 4) ☐ Interview Summary (PTO-413) Paper No(s). _____ . | |
| 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) ☐ Notice of Informal Patent Application (PTO-152) | |
| 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>4, 5, 8,</u> . | 6) ☐ Other: . | |

## DETAILED ACTION

### *Specification*

1.      Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract exceeds the 150-word limit.

### *Drawings*

2.      Applicant is required to submit a proposed drawing correction in reply to this Office action. However, formal correction of the noted defect may be deferred until after the examiner has considered the proposed drawing correction. Failure to timely submit the proposed drawing correction will result in the abandonment of the application.

The drawings are objected to because objections as stated in form PTO-948, changes to drawings need to be initialed and dated, and the prior art labels need to be placed at the bottom of the page. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Claim Objections*

3.      Claim 14 is objected to because of the following informalities:   misspellings. Appropriate correction is required.  Claim 14 recites the limitation "said lookup table means connected to a focus server, tracking server".  The examiner asserts that the claim should recite "said lookup table means connected to a focus servo, tracking servo".

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**4.      Claims 1-10 and 12-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

The term "substantially" in claims 1, 12 and 13 is a relative term that renders the claim indefinite.  The term "substantially" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.  For the sake of examination, the examiner assumes that there is modified modulation in the data.

As to claims 14 and 15, they recite the limitation "wherein media is modulated".  It is unclear to the examiner how the media can be modulated.  For the sake of examining, the examiner assumes it is the data on the media being modulated.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5.      **Claims 1, 3, 4 and 8-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Preuss et al U.S. Patent No. 5,319,735 in view of Sollish EP 0745925.**

As to claims 1 and 12, Preuss teaches reading the data from said media [column 5, lines 4-8]. Preuss teaches detecting the modulation of the at least one modified modulation rule associated with the data [column 4 lines 59-65]. Preuss teaches outputting the data as at least one of audio, video, audio data, video data and digital data substantially free of the modulation of the at least one modified modulation rule [figure 2].

Preuss does not teach deriving an embedded authentication key or component thereof responsive to the detecting step, comparing the embedded authentication key or component thereof, to at least one authentication key or component thereof and authenticating the at least one of the media and the data responsive to the comparing step.

Sollish teaches deriving an embedded authentication key [column 8, lines 8-15]. Sollish teaches comparing the authentication key to another key to authenticate the data [column 9, lines 30-34].

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Preuss so that after the modified modulation rule associated with data is detected, the embedded authentication key is detected. An encryption key 120 would have formed from the marked data. The extracted encryption key 120 would have been compared to the original encryption key 86. If the keys had matched then the data would

have been authenticated. After the authentication step, the digital data would have been outputted with its modified modulation rule.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Preuss by the teaching of Sollish because the authentication key formed from the marked data protects the data from unauthorized copying [column 9 lines 39-41].

As to claim 3, Preuss as modified by Sollish teaches converting the data into a stereo analog signal without transferring, in the data, the modulation of the at least one modulation rule used to derive the embedded authentication key or component thereof [Preuss column 1, lines 40-46].

As to claim 4, Preuss as modified by Sollish teaches locating at least one modified modulation rule on at least one of a per track basis throughout the media such that said authentication step is performed for at least one of each track to be played, throughout playback and throughout recording [Sollish column 3, lines 7-23].

As to claim 8, Preuss as modified teaches that the authenticating step further includes a step of using at least three different sources [four sectors] for compiling compound authentication keys [Sollish column 8 lines 8-15].

As to claim 9, Preuss as modified by Sollish teaches the deriving step further comprises the step of at least one of decoding the embedded authentication key for subsequent authentication [Preuss column 4 lines 66 to column 5 line 3].

As to claim 10, Preuss as modified by Sollish teaches that the comparing step further comprises the step of comparing the at least one modified modulation rule comprising the at least

one authentication key, to at least one lookup table of valid modified modulation rule output values comprising the at least one authentication key or component thereof [Sollish column 7 lines 57 to column 8 line 7].

As to claim 11, Preuss teaches media containing at least one modified modulation rule [column 4 lines 59-65].

Preuss does not teach at least one authentication key or component thereof for authenticating at least one of the media or data.

Sollish teaches an authentication key for authenticating at least one of the media or data [column 9, lines 30-34].

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Preuss so that an authentication key was included in the media to authenticate the data.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Preuss by the teaching of Sollish because the authentication key formed from the marked data protects the data from unauthorized copying [column 9 lines 39-41].

As to claim 13, Preuss teaches modulation via at least one modified modulation rule [column 4 lines 59-65]. Preuss teaches that the modified modulation rule cannot be readily altered, obscured nor removed from the data message without simultaneously degrading or impairing a quality of an audible component of the data message [column 1, lines 5-12]. Preuss teaches that the data message is transmitted substantially free of the modified modulation rule

thereby preventing a destination processor from reading and subsequently authenticating the data message [column 1, lines 36-46].

Preuss does not teach generating at least one authentication key or component thereof for authenticating the data message.

Sollish teaches deriving an embedded authentication key [column 8, lines 8-15]. Sollish teaches comparing the authentication key to another key to authenticate the data [column 9, lines 30-34].

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Preuss so that after the modified modulation rule associated with data is detected, the embedded authentication key is detected. An encryption key 120 would have formed from the marked data. The extracted encryption key 120 would have been compared to the original encryption key 86. If the keys had matched then the data would have been authenticated. After the authentication step, the digital data would have been outputted with its modified modulation rule. When the data was converted to an analog signal, the symbols would have been lost. Since the symbols are lost, an authentication key would not have been formed to authenticate the data.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Preuss by the teaching of Sollish because the authentication key formed from the marked data protects the data from unauthorized copying [column 9 lines 39-41].

6.      **Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Preuss et al U.S. Patent No. 5,319,735 and Sollish EP 0745925 as applied to claim 1 above, and further in view of Sollish et al U.S. Patent No. 6,311,305.**

As to claim 2, the Preuss-Sollish combination teaches predetermined symbol sequences [Preuss column 4, lines 11-22].

The Preuss-Sollish combination does not teach that the deriving step derives the embedded authentication key or component thereof as a combination of on-off binary codes representing ones and zeros.

Sollish (305) teaches on-off binary codes represented by ones and zeros [figure 8].

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified the Preuss-Sollish combination so that embedded authentication key is derived from the ones and zeros that represent the predetermined symbol sequences.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified the Preuss-Sollish combination by the teaching of Sollish (305) because the overriding of the ECC is applicable to a wide variety of digital optical media, including CD, CD-ROM, and DVD, and it is usable for digital optical media recordings which are both mass-produced by plastic molding apparatus as well as those which are produced in small quantities by individual recorders controlled by desktop computers, workstations, and the like [column 8, lines 18-26].

7.    **Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Preuss et al U.S. Patent No. 5,319,735 and Sollish EP 0745925 as applied to claim 1 above, and further in view of Chou et al U.S. Patent No. 5,337,357.**

As to claim 5, the Preuss-Sollish combination does not teach using authentication keys.

Chou teaches authenticating using a different authentication key or component thereof for each disc track [column 3, lines 18-25].

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified the Preuss-Sollish combination so that each disc track would have used a different authentication key.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified the Preuss-Sollish combination by the teaching of Chou because it restricts the possibility to use a particular program only to those willing to pay for that program and to prevent others who have not obtained authorization from such use. For example, if the user must call in to get a key which is then used to run a particular distributed program and this key is the same for all copies of this program, there is nothing to prevent the caller from simply giving the key to a third party who then may access the program without paying for such use [column 1, lines 33-42].

8.    **Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Preuss et al U.S. Patent No. 5,319,735 and Sollish EP 0745925 as applied to claim 1 above, and further in view of O'Connor et al U.S. Patent No. 5,745,568.**

As to claim 6, the Preuss-Sollish combination teaches one authentication key [Sollish column 8, lines 8-15].

The Preuss-Sollish combination does not teach the data and the media via at least two different authentication keys, each of which successively must be authenticated before said data is finally output via the outputting step.

O'Connor teaches the use of an authentication key formed by the recorded hardware ID [abstract].

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified the Preuss-Sollish combination so that the key formed by the hardware ID would have been added to the CD. Both keys would have to be authenticated before the data would have outputted.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified the Preuss-Sollish combination by the teaching of O'Connor because data security is furnished in a flexible manner so that a single specific computer or a specified class of systems is allowed access to data [column 2, lines 30-33].

9.      **Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Preuss et al U.S. Patent No. 5,319,735 and Sollish EP 0745925 as applied to claim 1 above, and further in view of Renaud et al U.S. Patent No. 5,958,051.**

As to claim 7, the Preuss-Sollish combination teaches authentication of data [Sollish column 9, lines 30-34].

The Preuss-Sollish combination does not teach authenticating the at least one of the media and the data over a plurality of interconnected computer networks comprising at least one of a local network, global network and the Internet.

Renaud teaches teach authenticating the at least one of the media and the data over a plurality of interconnected computer networks over the Internet [column 7, lines 55-65].

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified the Preuss-Sollish combination so that authentication of the data on the media would have been done over the Internet.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified the Preuss-Sollish combination by the teaching of Renaud because this method provides a more efficient method for securing and verifying the authenticity of data files, especially for data files intended to be transferred over computer networks [column 3, lines 19-22].

10.    **Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Preuss et al U.S. Patent No. 5,319,735 in view of Sollish EP 0745925 and Naruse et al U.S. Patent No 4,136,362.**

As to claim 14, Preuss teaches prevention of at least one of piracy, unauthorized access and unauthorized copying of the data stored on said media, wherein said media is modulated via at least one modified modulation rule.

Preuss does not teach generating at least one authentication key or component thereof for authenticating at least one of said media and said data. Preuss does not teach that the system includes a data player containing a data processor comprising lookup table means for intentionally breaking standard modulation rules by which bit patterns are recorded as one or more symbol sequences on a data media lookup table means connected to a focus servo, tracking

servo, laser, lens and mirror, together comprising a portion of a disc reader housed in a data player device.

Sollish teaches generating an authentication key for authenticating at least the data. Sollish teaches lookup table means for intentionally breaking standard modulation rules by which bit patterns are recorded as one or more symbol sequences on a data media lookup table.

The examiner asserts that data player devices have focus servos, tracking servos, lasers, lenses and mirrors. Naruse teaches that data player devices have focus servos, tracking servos, lasers, lenses and mirrors.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Preuss so that data processor would have looked up on the lookup table to break standard modulation rules by which the bit patterns are recorded as symbol sequences on the media. The data player would have had a focus servo, tracking servo, laser, lens and mirror housed inside the data player device.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified the Preuss by the teaching of Sollish and Naruse because this scheme protects the data from unauthorized copying [column 9 lines 39-41].

**11.    Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rhoads U.S. Patent No. 5,768,426 in view of Sollish EP 0745925.**

As to claim 15, Rhoads discloses a system for authenticating at least one of a media and data stored on said media [column 1, lines 12-21]. Rhoads discloses in order to prevent at least one of piracy unauthorized access and unauthorized copying of data stored on said media, wherein said media is modulated via at least one modified modulation rule [column 3 line 65 to

column 4 line 14]. Rhoads discloses that the system includes a data player containing a data processor comprising a look-up table used by said data processor in intentionally modifying at least one modulation rule by which at least one bit indicative of said modifying is generated as at least one symbol used by said system to authenticate said at least one of said media and said data stored on said media [column 17 lines 18-29].

Rhoads does not teach generating at least one authentication key or component thereof for authenticating at least one of said media and said data.

Sollish teaches deriving an embedded authentication key [column 8, lines 8-15]. Sollish teaches comparing the authentication key to another key to authenticate the data [column 9, lines 30-34].

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Preuss so that after the modified modulation rule associated with data is detected, the embedded authentication key is detected. An encryption key **120** would have formed from the marked data. The extracted encryption key **120** would have been compared to the original encryption key **86**. If the keys had matched then the data would have been authenticated. After the authentication step, the digital data would have been outputted with its modified modulation rule.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Preuss by the teaching of Sollish because the authentication key formed from the marked data protects the data from unauthorized copying [column 9 lines 39-41].

### *Conclusion*

12.     Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aravind K Moorthy whose telephone number is 703-305-1373. The examiner can normally be reached on Monday-Friday, 8:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gail O Hayes can be reached on 703-305-9711. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-1373.


April 21, 2003